

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/SE 2004/001358

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04B 7/06, H04L 1/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04B, H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
| A         | HWANG, C-S. et al. "A random beamforming technique in MIMO systems exploiting multiuser diversity".<br>In: IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, 2003. ICC '03. 11-15 May 2003, Vol. 5, pages 3225-3229, see sections I-III and V.  | 1-15                  |
| A         | DONG, L. et al. "Opportunistic transmission scheduling for multiuser MIMO systems".<br>In: 2003 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING, 2003. PROCEEDINGS. (ICASSP '03). 6-10 April 2003, Vol. 5, pages V65-V68, ISSN: 1520-6149, see sections 2-4 and 6. | 1-15                  |

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

20 December 2004

Date of mailing of the international search report

22-12-2004

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |  |                       |
|---|--|-----------------------|
| Category*   | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
| A   | US 20030108117 A1 (KETCHUM, J.W. ET AL.),<br>12 June 2003 (12.06.2003), paragraphs 0011 - 0014<br><br>--   | 1-15                  |
| A   | WO 03100986 A2 (AVENDO WIRELESS INC.),<br>4 December 2003 (04.12.2003), paragraphs 0054 -<br>0056, 0076, 0103<br><br>--  | 1-15                  |
| A   | HEATH, R.W., Jr. et al. "Multiuser diversity for<br>MIMO wireless systems with linear receivers".<br>In: CONFERENCE RECORD OF THE THIRTY-FIFTH ASILOMAR<br>CONFERENCE ON SIGNALS, SYSTEMS AND COMPUTERS, 2001.<br>Pacific Grove, CA, USA, 4-7 November 2001, Vol. 2,<br>pages 1194-1199, see abstract and sections 6-7.<br><br>----- | 1-15                  |

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|       |             |    |            |    |             |   |            |
|-------|-------------|----|------------|----|-------------|---|------------|
| US    | 20030108117 | A1 | 12/06/2003 | EP | 1451964     | A | 01/09/2004 |
|       |             |    |            | US | 6760388     | B | 06/07/2004 |
|       |             |    |            | WO | 03050968    | A | 19/06/2003 |
| <hr/> |             |    |            |    |             |   |            |
| WO    | 03100986    | A2 | 04/12/2003 | US | 20030218973 | A | 27/11/2003 |
| <hr/> |             |    |            |    |             |   |            |